

1 1. A digital sound relaxation and sleep-inducing machine, comprising:

2 a housing;

3 at least one speaker for reproducing sounds;

4 a digital memory storing samples to be replayed of sounds previously recorded at a record  
5 rate that each contain start and end sounds that are acoustically seamless and that last a certain  
6 duration at said record rate;

7 at least one selector switch; and

8 a processor-implemented sound controller mounted to said housing and connected to said  
9 digital memory, to said at least one selector switch and to said speaker and operative in sleep-  
10 induce mode, in response to user-input control selection entered via said at least one selector  
11 switch, (1) to replay the sound sample selected repetitively for a first time interval greater than  
12 the sample duration at the record rate the whole number of times that the sample duration is  
13 contained within the first time interval, and (2) to replay the sound sample for a second time  
14 interval that consists of a certain number of third time intervals during which, for every third time  
15 interval less than said second time interval, the sound sample is replayed at another, slower rate  
16 the whole number of times that the selected sample duration, factored by the ratio of said record  
17 and each another slower rate, is contained within each said third time interval.

1 2. A method of playing a prerecorded sound to induce a deep relaxation state that helps a listener  
2 to fall asleep, comprising the steps of:

3 storing a sample to be replayed of a sound previously recorded at a record rate in digital  
4 memory of a sound conditioning machine in such a way that said sample contains start and end  
5 sounds that are acoustically seamless and lasts for certain duration at the record rate;

6 replaying the sound sample repetitively for a first time interval greater than the sample  
7 duration at the record rate the whole number of times that the sample duration is contained within  
8 the first time interval; and

9 replaying the sound sample for a second time interval that consists of a certain number of  
10 third time intervals during which, for every third time interval less than said second time interval,  
11 the sound sample is replayed at another, slower rate the whole number of times that the sample  
duration, factored by the ratio of said record and each another slower rate, is contained within  
each said third time interval.

1 3. A digital sound relaxation and sleep-inducing machine, comprising:

2 a housing;

3 at least one speaker for reproducing sounds;

4 at least one selector switch;

5 at least one memory having digitally stored sounds selectable for replay; and

6 a processor-implemented sound controller mounted to said housing and electrically  
7 connected to said at least one memory, said at least one speaker, and said at least one selector  
8 switch operative in one of a sound relaxation and noise masking mode and a sleep-induce mode  
9 in response to user-input control selections entered via said at least one selector switch;

10 said processor-implemented sound controller is operative in said sound relaxation and noise  
11 masking mode (1) to retrieve from said memory a sound selected for replay and (2) to replay it  
12 continually and without disrupting pauses so as to induce relaxation and to mask noise;

13 said processor-implemented sound controller is operative in said sleep-induce mode (1) to  
14 retrieve from said memory a sound selected for replay, (2) to replay it continually and without  
15 disrupting pauses so as to induce relaxation and to mask noise for a first time interval, and (3) for  
16 a second time interval, (i) to select a slower replay rate, (ii) to replay said selected sound  
17 continuously and without disrupting pauses at said slower replay rate for a third time interval and  
18 (iii) to repeat steps (i) and (ii) for the duration of said second time interval so that the  
19 progressively slower sound replay and the listener's biorhythms synergistically co-act to induce  
20 a state of deep relaxation that aids the listener to fall asleep.

21 4. The digital sound relaxation and sleep-inducing machine of claim 3, wherein each sound stored  
22 in said digital memory is a sample to be replayed of a sound previously recorded at a record rate;  
23 wherein each said sample contains start and end sounds that are acoustically seamless and lasts for  
24 a certain duration at said record rate; wherein said second time interval consists of a certain  
25 number of said third time intervals; wherein said processor-implemented sound controller in said  
26 sleep-induce mode (1) is operative to replay the selected sound sample repetitively for said first  
27 time interval greater than the sample duration at the record rate the whole number of times that  
28 the selected sample duration is contained within the first time interval, and (2) is operative to  
29 replay the sound sample for said second time interval that consists of said certain number of third  
30 time intervals during which, for every third time interval less than said second time interval, the

11 sound sample is replayed at another, slower rate the whole number of times that the sample  
12 duration, factored by the ratio of said record and each another slower rate, is contained within  
13 each said third time interval.

1 5. A digital sound relaxation and sleep-inducing machine, comprising:

2 a housing;

3 at least one speaker for reproducing sounds;

4 at least one selector switch;

5 at least one memory having digitally stored samples of prerecorded sounds selectable for  
6 replay; and

7 a processor-implemented sound controller mounted to said housing and electrically  
8 connected to said at least one memory, said at least one speaker, and said at least one selector  
9 switch operative in one of a sound relaxation and noise masking mode and a sleep-induce mode  
10 in response to user-input control selections entered via said at least one selector switch;

11 said processor-implemented sound controller is operative in said sound relaxation and noise  
12 masking mode (1) to retrieve from said memory a sample of at least one prerecorded sound  
13 selected for replay and (2) to replay said at least one sample in accord with a preselected first  
14 sound pattern selected to continually replay said sample without disrupting pauses so as to soothe  
15 the listener and to mask noise;

16 said processor-implemented sound controller is operative in said sleep-induce mode (1) to  
17 retrieve from said memory at least one sample of a prerecorded sound selected for replay, and (2)  
18 to replay said at least one sample in accord with a preselected second sound pattern different from

19 said first sound pattern selected to induce a state of deep relaxation that aids the listener to fall  
20 asleep.

1 6. A digital sound relaxation and sleep-inducing machine, comprising:

2 a housing;

3 at least one speaker for reproducing sounds;

4 at least one selector switch;

5 at least one memory having digitally stored sounds providing a library of sounds selectable  
6 for replay;

7 a display; and

8 a processor-implemented sound controller mounted to said housing and electrically  
9 connected to said at least one memory, said at least one speaker, said display and said at least one  
10 selector switch operative in one of a sound relaxation and noise masking mode, an alarm set  
11 mode, an alarm check mode and in an alarm mode in response to user-input control selections  
12 entered via said at least one selector switch;

13 said processor-implemented sound controller is operative in said sound relaxation and noise  
14 masking mode (1) to retrieve from said memory a sound selected for replay and (2) to replay it  
15 continually and without disrupting pauses so as to soothe the listener and to mask noise;

16 said processor-implemented sound controller is operative in said alarm set mode (1) to  
17 identify in said memory any sound of said library of sounds selected as an alarm wake-up sound  
18 in response to at least one user-input control selections entered via said at least one selector switch  
19 and (2) to replay that sound in alarm mode;

20 said processor-implemented sound controller is operative in said alarm check mode (1) to  
21 display an indication of sound wake-up if a sound has been selected for wake-up in alarm set mode  
22 and (2) to replay the identified sound at wake-up volume provided the alarm has been activated  
23 in alarm set mode and otherwise (3) to display an indication that the alarm has not been activated.

1 7. The digital sound relaxation and sleep-inducing machine of claim of 6, further including a  
2 listening volume selector switch; and wherein said processor-implemented sound controller is  
3 operative in said sound relaxation and noise masking mode to replay sounds selected at volumes  
4 set by said listening volume selector switch and is operative in said alarm mode to replay said  
identified sound at an alarm volume.

8. A digital sound relaxation and sleep-inducing machine, comprising:

a housing;

at least one speaker for reproducing sounds;

at least one selector switch;

at least one memory having digitally stored samples capable of perpetual replay of  
prerecorded sounds selectable for replay; and

a processor-implemented sound controller mounted to said housing and electrically  
connected to said at least one memory, said at least one speaker, and said at least one selector  
switch operative in a sleep-induce mode in response to user-input control selections entered via  
said at least one selector switch;

